Enterprise Solutions Module 2

Monday, 26 June

Learning Objectives

- Learn what the unique elements of ERP Lifecycle Management consist of.

  - ☐ DoD Enterprise Integration Toolkit Roadmap
    - ● Phases and Key Considerations
    - ● Entry and Exit Criteria

  - ☐ Implementation Phase Key Considerations
    - ● Entry & Exit Criteria
    - ● Customization vs. Configuration
    - ● Organizational Structure
    - ● Importance of Data Quality
    - ● Testing

- Identify DoD resources for ERP Lifecycle Management

Enterprise Solutions Competency Center

Agenda

■ **Opening Remarks**	**Mr. Chip Raymond**
■ **ERP Lifecycle Management**	**Mr. Steve Krekeler**
■ **Enterprise Solutions Phases and Key Milestones**	**Mr. Steve Krekeler**
■ **Break**	**20 min**
■ **Customization vs. Configuration**	**Dr. Ray Sommer**
■ **Implementation Phase Key Considerations**	**Mr. Steve Krekeler**
■ **Enterprise Solutions Toolkits and Resources**	**Mr. Steve Krekeler**
■ **Q&A**	

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

3

Opening Remarks

Chip Raymond - SEC - Fort Belvoir

Enterprise Solutions Competency Center

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases**   **Mr. Steve Krekeler**
  and Key Milestones

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Enterprise Solutions Competency Center

ERP Lifecycle Management

Steven Krekeler - Capgemini

Enterprise Solutions Competency Center

ERP Lifecycle Management

- **The DoD has an Enterprise Integration (EI) Toolkit Roadmap which defines the ERP Lifecycle Management approach from a DoD perspective**

  - ☐ Roadmap is a guideline for government and contractor ERP project team members

  - ☐ System Integrators will provide proven methodologies for the implementation phase which contain similar stages, activities and deliverables

  - ☐ System Integrator methodologies will not contain DoD 5000 milestones and these milestones will need to be mapped to their phases at project onset

ERP Lifecycle Management begins with the process of defining the business case for an ERP system and includes the acquisition of software, SI services, implementation and post go-live activities.

Capgemini
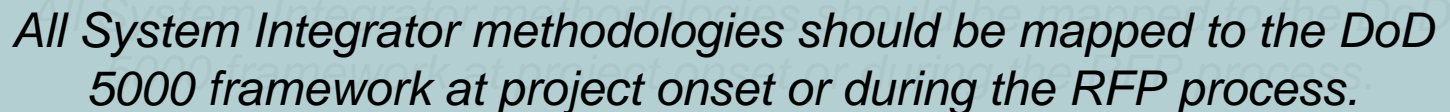
CONSULTING.TECHNOLOGY.OUTSOURCING
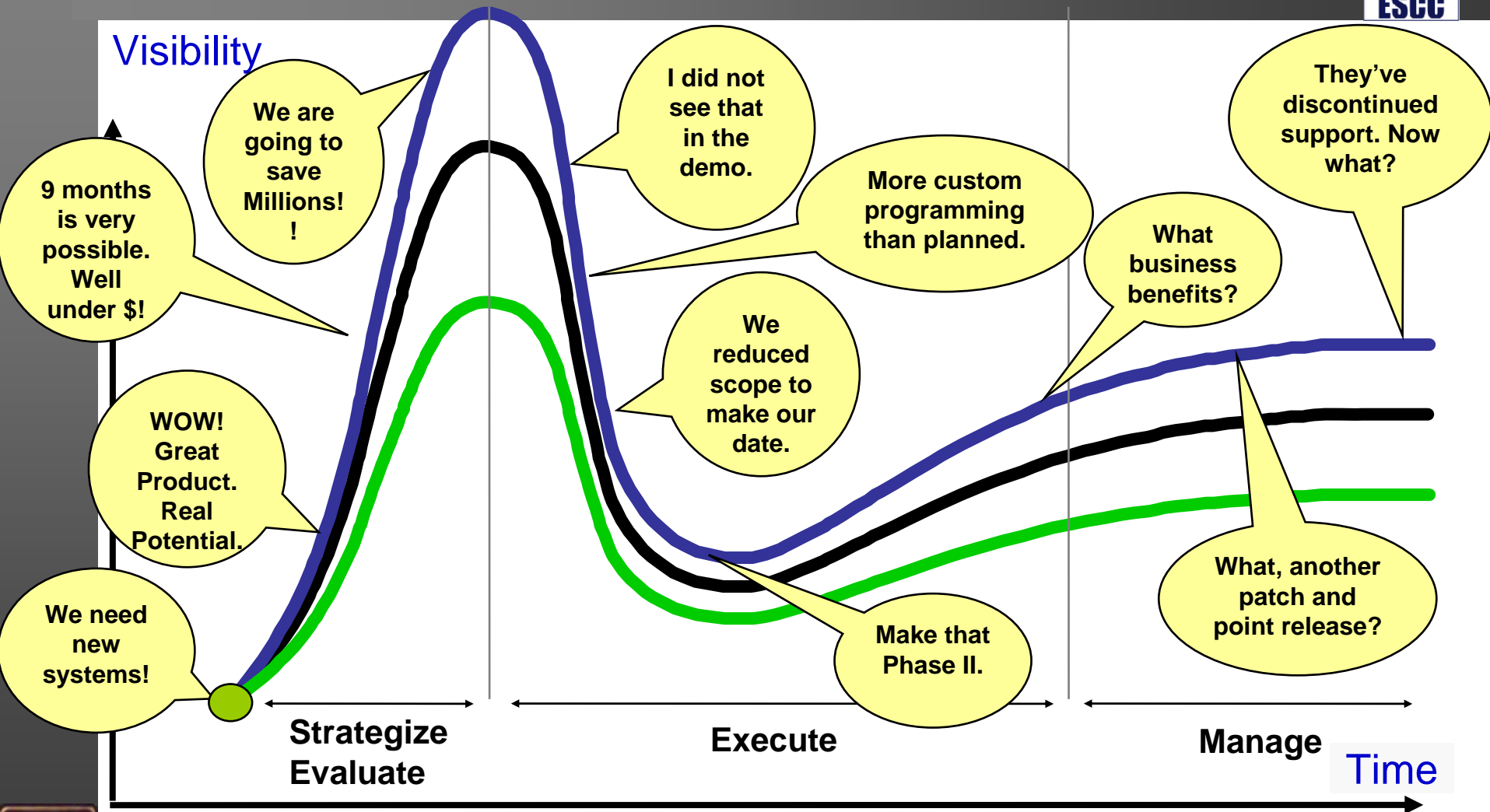
DoD ERP Methodology: EI Toolkit
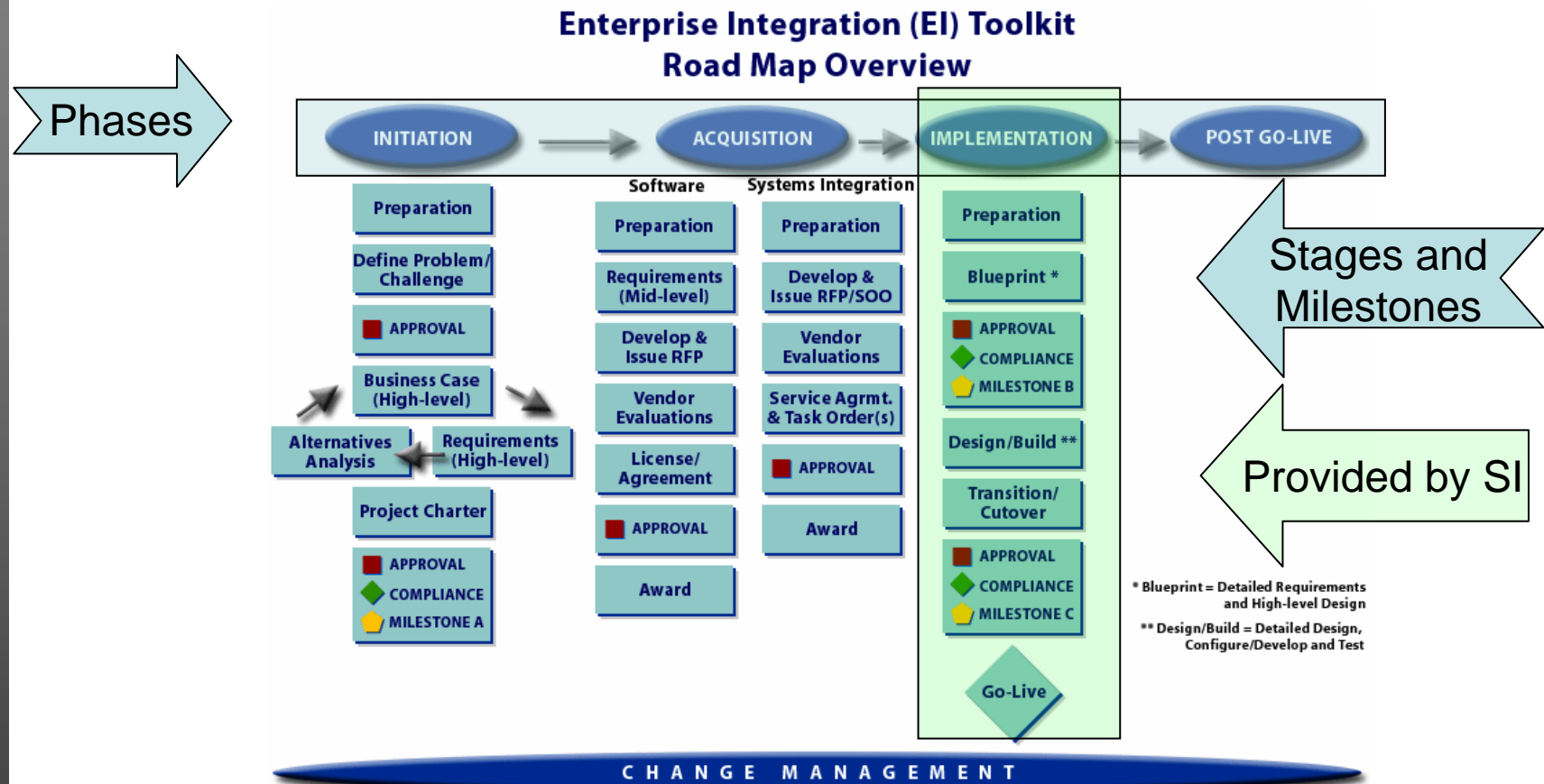
The EI Toolkit offers a sound ERP roadmap with specific DoD milestones. System Integrators will provide a similar ERP Methodology for the project's Implementation Phase.

EI Toolkit – Acquisition Milestones

Defense Acquisition Management Framework – Traditional

Concept Refinement	Technology Development	System Development & Demonstration	Production & Deployment	Operations & Support

A · B · C · IOC · FOC

Concept Decision

DT · IOT&E · FPDR

Pre-Systems Acquisition · *Systems Acquisition* · *Sustainment*

EI Toolkit ERP Road Map and DoD 5000 Milestones

A · B · C · IOC · FOC

Initiation	Acquisition	Implementation	Go Live	Post Go-Live

Integration Testing · Acceptance Testing · DT · IOT&E · FDDR

- •Preparation
- •Problem Definition
- •Business Case
- •Requirements
- •Alternatives
- •Charter

Software
- •Preparation
- •Requirements
- •RFP
- •Vendor Evaluation
- •License/Agreement
- •Award

System Integration
- •Preparation
- •RFP/SOO
- •Vendor Evaluation
- •Service Agreement & Task Order
- •Award

- •Preparation
- •Blueprint
- •Design/Build
- •Developmental Testing
- •Transition/Cutover

- •*Initial Go-Live Support*
- •*Project Close*
- •*Production Support*

All System Integrator methodologies should be mapped to the DoD 5000 framework at project onset or during the RFP process.

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

9

Jun 2006

U.S.ARMY

ERP Implementation Reality

Source: Gartner

Enterprise Solutions Competency Center

Jun 2006

Implementation Strategies

- **Following methodology and phases:**

  - ☐ Major System Integrators have used their methodologies successfully and failed at numerous clients; **methodology does not determine success**

  - ☐ The devil is in the details – make sure all steps have been followed to completion and to a sufficient level of detail before moving to the next phase or milestone

- **Control of modifications and scope, use of competent subject matter experts on projects, and clear governance process help mitigate risk**

- **Addressing Potential High Risk Issues:**

  - ☐ Insufficient change management, not managing system integrators, data quality, and insufficient business process realignment leading to software modifications

Following a strict and proven methodology is critical to ERP implementation success but does not guarantee results. Verification of results and accountability is key.

ERP Roles & Responsibilities

- ■ Customer
- ■ Project Sponsor
    - ☐ Functional expertise
    - ☐ Change catalyst
    - ☐ Competency Center
    - ☐ Governance Process

- ■ ERP Vendor
    - ☐ Deep application knowledge
    - ☐ Best practice business processes
    - ☐ User support
    - ☐ Software support (patches, fixes, upgrades)

- ■ Systems Integrator
    - ☐ Project Management skills
        - ● Experience
        - ● Certifications
        - ● Methodology
    - ☐ Change Management and Training development
    - ☐ Interface with legacy systems
    - ☐ Best practice implementation experience
        - ● Core ERP
        - ● Bolt-ons
        - ● Gap resolution
    - ☐ Focus on specific industries or business areas

All the players contribute lessons learned in their area of expertise.

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases and Key Milestones**   **Mr. Steve Krekeler**

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Enterprise Solutions Phases and Milestones
Steven Krekeler - Capgemini

Enterprise Solutions Competency Center

DoD ERP Methodology: EI Toolkit

Enterprise Integration (EI) Toolkit
Road Map Overview

Phases

| INITIATION | ACQUISITION | IMPLEMENTATION | POST GO-LIVE |

Activities and Milestones

Software / **Systems Integration**

Initiation	Software	Systems Integration	Implementation
Preparation	Preparation	Preparation	Preparation
Define Problem/Challenge	Requirements (Mid-level)	Develop & Issue RFP/SOO	Blueprint *
■ APPROVAL	Develop & Issue RFP	Vendor Evaluations	■ APPROVAL / ◆ COMPLIANCE / ⬠ MILESTONE B
Business Case (High-level)	Vendor Evaluations	Service Agrmt. & Task Order(s)	Design/Build **
Alternatives Analysis / Requirements (High-level)	License/Agreement	■ APPROVAL	Transition/Cutover
Project Charter	■ APPROVAL	Award	■ APPROVAL / ◆ COMPLIANCE / ⬠ MILESTONE C
■ APPROVAL / ◆ COMPLIANCE / ⬠ MILESTONE A	Award		

* Blueprint = Detailed Requirements and High-level Design

** Design/Build = Detailed Design, Configure/Develop and Test

Go-Live

CHANGE MANAGEMENT

Entry and Exit Criteria for each phase must be met before approval for the next phase is given by project leadership.

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Jun 2006

Initiation Phase: Entry & Exit Criteria

Entry Criteria	Key Considerations	Exit Criteria

■ Define Problem/Challenge
■ Define high-level business case
■ Define high-level requirements
■ Perform Alternatives Analysis
■ Document Project Charter
	■ Starts with the definition of the problem – not the technology solution
	■ What strategic Army objective is being supported?
	■ What capability will the solution deliver?
	■ What enterprise-level business processes are involved?
	■ What context will the solution operate in?
		■ Written approval to proceed
		■ High-level cost estimates for each alternative
		■ Initials Project Charter
		■ Acquisition Strategy
		■ Complete Milestone A Criteria
		  □ Obtain Domain Advocacy and Computer compliance
		  □ Obtain CIO approval of Clinger-Cohen Act (CCA) compliance
		  □ Register the system being acquired with the appropriate entity
		  □ Begin Defense Information Technology Security Accreditation (DITSCAP) phase

INITIATION

Preparation

Define Problem/ Challenge

APPROVAL

Business Case (High-level)

Alternatives Analysis   Requirements (High-level)

Project Charter

APPROVAL
COMPLIANCE
MILESTONE A

Acquisition Phase: Entry & Exit Criteria

Entry Criteria	Key Considerations	Exit Criteria
Software ■ Document Mid-Level Business Requirements ■ Issue RFI or Draft RFP ■ Develop and Issue RFP **System Integration** ■ Complete Software Acquisition ■ Develop and Issue RFP/SOO ■ Issue RFI or draft RFP ■ Develop and Issue RFP	■ Use of Enterprise Software Initiative (ESI) Blanket Purchase Agreements (BPA) for Oracle & SAP Software is mandatory ■ ESI BPAs also exist for System Integration Services ■ Use the RFP process to obtain essential services like Change Management via the procurement process ■ Ownership of intellectual property should be retained by Army	**Software** ■ Evaluate Software Vendors ■ Obtain Approval to Award ■ Award Contract ■ Finalize License and Maintenance Agreement **System Integration** ■ Evaluate System Integrators ■ Obtain Approval to Award ■ Award Contract ■ Finalize Master Agreement and Initial Task Orders

Enterprise Solutions Competency Center Jun 2006

17

Implementation Phase: Entry & Exit Criteria

IMPLEMENTATION

Preparation

Blueprint *

APPROVAL
COMPLIANCE
MILESTONE B

Design/Build **

Transition/
Cutover

APPROVAL
COMPLIANCE
MILESTONE C

Go-Live

* Blueprint = Detailed Requirements
and High-level Design
** Design/Build = Detailed Design,
Configure/Develop and Test

Entry Criteria	Key Considerations	Exit Criteria
■ Formation of Governance/Change Control Board ■ Selection of Project Manager and Government Team Members ■ Acquisition of Software ■ Acquisition of System Integrator ■ Procurement of Hardware	■ Highest risk to cost and schedule ■ System Integrators must be proactively managed by customer ■ Must have clear definition of scope and requirements to be met ■ Need detailed but rapid review of change requests by Army leadership ■ Change requests must be accompanied by a business case ■ Seasoned Army Business Process Subject Matter Experts (SME) should be assigned to all ERP implementations: • Budget for personnel to backfill for SMEs while on ERP project, allow 10% contingency for project schedule overruns • The ratio of technical resources to business process resources, i.e. Government personnel, should be approximately 1 to 5* but in the public sector it's usually the opposite	■ Validation of successful data conversion ■ Approval of test results ■ Trained End-Users ■ Cut-over to Production System ■ Defined Sustainment Processes

*Source: DuPont

Enterprise Solutions Competency Center

Jun 2006

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

18

Post Go-Live: Entry & Exit Criteria

ESCC

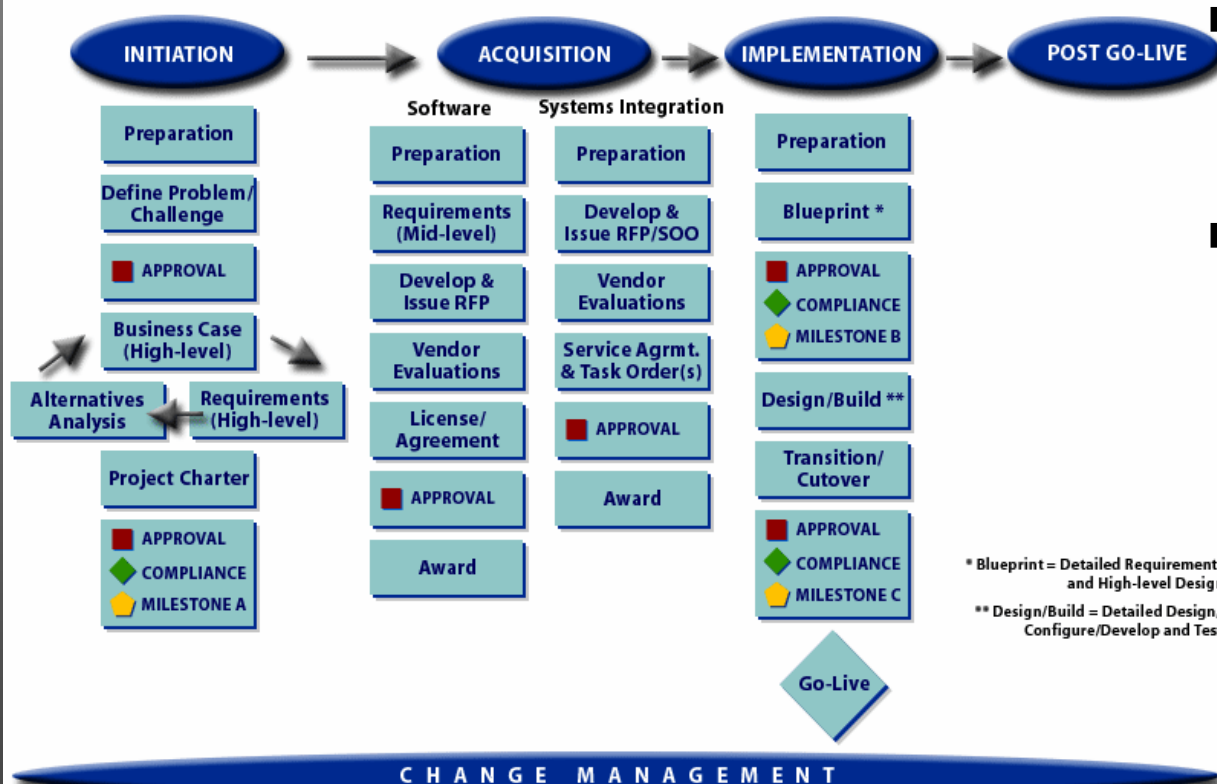| Entry Criteria	Key Considerations	Exit Criteria
■ Cutover to Production system ■ Help Desk/Sustainment Organization Start-up ■ Ensure the new roles and responsibilities are captured in job descriptions ■ Document and reward improvements in performance evaluations	■ Help Desk must be fully staffed Day 1 ■ Government and Contractor project team members should be available to support the sustainment team during a stabilization period ■ Decommissioning of Legacy Systems should occur based upon meeting previously determined milestones ■ Track and address subsequent organizational impacts with surveys and action plans ■ Coordinate with Continuous Process Improvement Authority – *process improvement is ongoing* ■ Maintenance and upgrade planning will need to commence immediately ■ Assign responsibility for maintaining and institutionalizing training and user documentation	■ Transition key performance indicators to Sustainment Organization ■ Service Level Agreements for expected performance ■ Document lessons learned and submit to Enterprise Solutions Competency Center ■ Communicate with impacted stakeholders ■ Capture and institutionalize training

POST GO-LIVE

Enterprise Solutions Competency Center

Capgemini

Jun 2006

19

Change Management

Enterprise Solutions Competency Center

Change Management

Enterprise Integration (EI) Toolkit
Road Map Overview

- **INITIATION → ACQUISITION → IMPLEMENTATION → POST GO-LIVE**

INITIATION
- Preparation
- Define Problem/Challenge
- ■ APPROVAL
- Business Case (High-level)
- Alternatives Analysis | Requirements (High-level)
- Project Charter
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE A

ACQUISITION

Software
- Preparation
- Requirements (Mid-level)
- Develop & Issue RFP
- Vendor Evaluations
- License/Agreement
- ■ APPROVAL
- Award

Systems Integration
- Preparation
- Develop & Issue RFP/SOO
- Vendor Evaluations
- Service Agrmt. & Task Order(s)
- ■ APPROVAL
- Award

IMPLEMENTATION
- Preparation
- Blueprint *
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE B
- Design/Build **
- Transition/Cutover
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE C

* Blueprint = Detailed Requirements and High-level Design

** Design/Build = Detailed Design, Configure/Develop and Test

◆ Go-Live

C H A N G E   M A N A G E M E N T

- ■ **Change management costs will vary by ERP program requirements**

- ■ **But on average 10% to 15% of total program budget should be allocated to change management activities.**

Source: AMR Reference accessed March 20th,

Copyright AMR Research, 2005

*The primary cause of failure is most frequently the failure to <u>anticipate and effectively manage</u> cultural and organizational change**. --** Gartner.*

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Jun 2006

Change Management Continuum

Level of Commitment

- Internalization — Commit
- Institutionalization — Educate
- Adoption
- Positive Perception — Inform
- Understanding
- Awareness
- Contact

Unawareness — Confusion — Negative Perception — Decision not to Support Change — Support Withdrawn after Use — Compliance — Commitment

Time

Adapted from ODR, Inc.

Enterprise Solutions Competency Center

Jun 2006
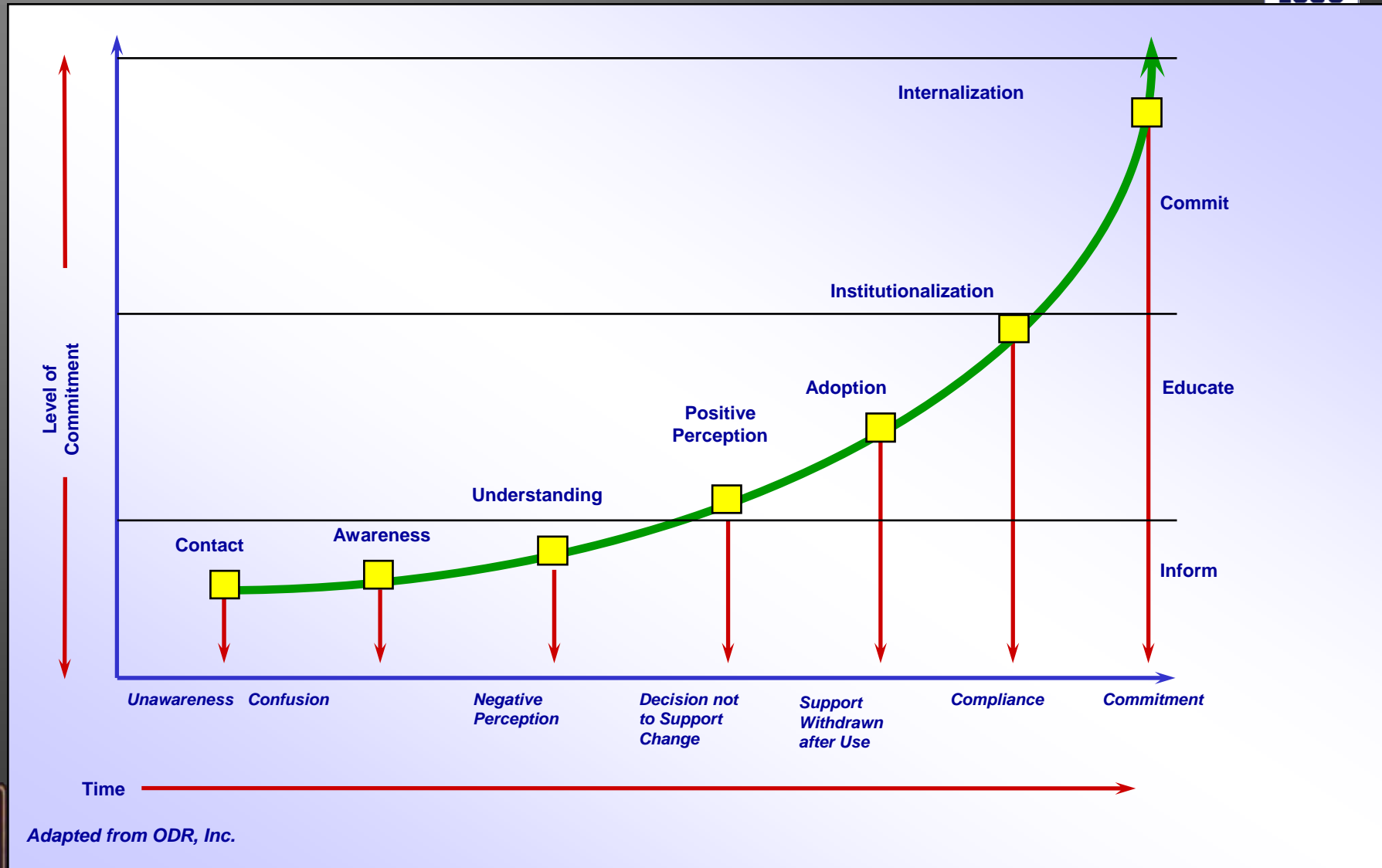
Change Management Roadmap

BY PHASE

BY ROLE	INITIATION	ACQUISITION	IMPLEMENTATION	POST GO-LIVE
LEADERSHIP	Identify and Engage	Develop Strategy	Implement Strategy	Measure Effectiveness
COMMUNICATIONS	Determine Strategy	Develop Plan	Execute Plan	Determine Satisfaction
ORGANIZATION STRUCTURE	Determine Requirements	Develop Plan	Establish Infrastructure	Review and Planning
READINESS	Plan and Assess	Include in Contracts	Measure and Assess	Monitor and Measure
EDUCATION AND TRAINING	Raise Awareness	Review Current Skills	Define and Train	Continue Training

Change Management is the best means of fostering adoption of new technology but is often overlooked and poorly funded.

Enterprise Solutions Competency Center

Jun 2006

Capgemini

CONSULTING.TECHNOLOGY.OUTSOURCING

Change Management: Key Considerations

- **Key Considerations**
  - ☐ **Must be defined in the Acquisition process**
    - Define and budget for change management requirements during RFP process
    - Grade proposed plans submitted by System Integrators during selection process
    - Designate government personnel as team members with defined Change Management responsibilities
    - Plan to use current organizational communication mechanisms to communicate changes early and often
    - Plan to invest in End User Training development, delivery, and containment
  - ☐ **Leadership at all levels take accountability for success**
    - Leaders drive overarching themes of Vision and sense of urgency.
  - ☐ **Focus on your stakeholders, at all levels**
    - Understand who they are, their hopes and reservations
    - Target communications messages, training, leadership emphasis according to stakeholder impact.
  - ☐ **End User Training is a change management tool**

Implementation Phase Key Considerations

IMPLEMENTATION

Preparation

Blueprint *

APPROVAL
COMPLIANCE
MILESTONE B

Design/Build **

Transition/Cutover

APPROVAL
COMPLIANCE
MILESTONE C

Go-Live

* Blueprint = Detailed Requirements and High-level Design

** Design/Build = Detailed Design, Configure/Develop and Test

Preparation: Entry & Exit Criteria

Entry Criteria	Key Considerations	Exit Criteria
■ Draft Project Charter ■ Contracts finalized ■ Government team members trained on vendor software and in place ■ Software and Hardware Installed	■ All phases and deliverables to be provided by the System Integrator must be understood by all government team members and leadership ■ The process for Change Requests must include the submission of a detailed business case with a proof of concept based upon no modification of ERP software, even if a modification even if a modification is ultimately approved ■ Identification of risks and risk mitigation plans should begin on Day 1	■ Conduct Project Kick-Off Meetings ■ Project Plan (WBS, schedule complete) ■ Project Management Plans (Scope, Risk Mitigation, Change Management, Information Assurance) complete ■ Project Charter Updated ■ Thorough understanding of System Integrator Implementation Methodology ■ Approval and Sign-off of Preparation Phase by Army

IMPLEMENTATION

Preparation

ESCC

Capgemini

U.S.ARMY

BluePrint: Entry & Exit Criteria

IMPLEMENTATION

Preparation

Blueprint *

APPROVAL
COMPLIANCE
MILESTONE B

* Blueprint = Detailed Requirements and High-level Design

Entry Criteria	Key Considerations	Exit Criteria

■ Project Kick-Off
■ Detailed Project Plan
■ Project Management Plans
■ Mid-level requirements documented in Acquisition Phase
■ Infrastructure Complete
	■ Adopting commercial best-practice process built into the software should be a priority:
	  □ Any deviation from this practice must be justified in a business case
	  □ Business case should contain evidence that the business process provided by the software was modeled and deemed unfit
	■ Typical Issues during BluePrint Phase:
	  □ Decisions made to modify ERP software without modeling alternative business processes
	  □ Change requests multiply as users attempt to maintain the status quo
	  □ Scope expands and project timelines fall behind
		■ Scope defined
		■ Data Migration Strategy defined and data identified
		■ Reports, Interfaces, Conversion, and Enhancements (RICE) objects identified
		■ Business Case for modifications documented
		■ Change Requests approved
		■ New Business Processes defined and approved
		■ Approval and Sign-off of BluePrint Phase by Army
		■ Domain Advocacy and Controller Compliance obtained
		■ Milestone B satisfied

U.S.ARMY

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases**   **Mr. Steve Krekeler**
  and Key Milestones

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Enterprise Solutions Competency Center

Capgemini

Jun 2006

Agenda

- **Opening Remarks** — **Mr. Chip Raymond**

- **ERP Lifecycle Management** — **Mr. Steve Krekeler**

- **Enterprise Solutions Phases and Key Milestones** — **Mr. Steve Krekeler**

- **Break** — **20 min**

- **Customization vs. Configuration** — **Dr. Ray Sommer**

- **Implementation Phase Key Considerations** — **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources** — **Mr. Steve Krekeler**

- **Q&A**

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Customization vs. Configuration

Dr. Ray Sommer

Enterprise Integration, Incorporated

Enterprise Solutions Competency Center

Clarification of Terms

- **Conversion** = Extracting, Cleansing, and Loading legacy data from the previous system into the COTS ERP.

- **Configuration** = Taking the COTS ERP out of the box and making it work for you using only the "normal" settings and controls in the software.

- **Customization** = Changing the COTS ERP software by some kind of modification, enhancement, or development effort beyond the scope of what the "normal" settings and controls in the software facilitate.

- **Development** = Writing new or modifying existing software code.

- **Modification** (or "Mod") = Building new or enhancing existing functionality by modifying the COTS ERP software code.

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

*Enterprise Solutions Competency Center*

ENTERPRISE *integration inc.*

BluePrint – Customization vs. Configuration

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design
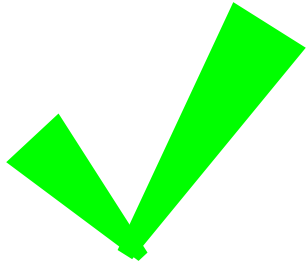
- Configuration is making the COTS ERP work for you by setting the delivered parameters within the system.

- Customization or modification implies doing development work that will inevitably cost more money and take more time.

Configuration and Customization should both be controlled at the Enterprise Level to move toward enterprise integration.

Enterprise Solutions Competency Center

ENTERPRISE *integration inc.*

A Comparison by Examples

- ■ **With *only* Configuration**
    - ☐ Uses the standard COTS ERP reports as they are
    - ☐ Uses the standard COTS ERP transactions as they are to run your business processes
    - ☐ Uses the fields and tables as they are delivered in the COTS ERP to hold your organization's data
    - ☐ Uses standard "modular" functionality of the ERP to address your business processes

- ■ **With Customization**
    - ☐ Builds new, custom reports
    - ☐ Creates new, custom transactions or screen sequences
    - ☐ Creates new tables or fields to hold special legacy data
    - ☐ Interfaces with a 3rd party application to perform a function or process

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Performing Configuration
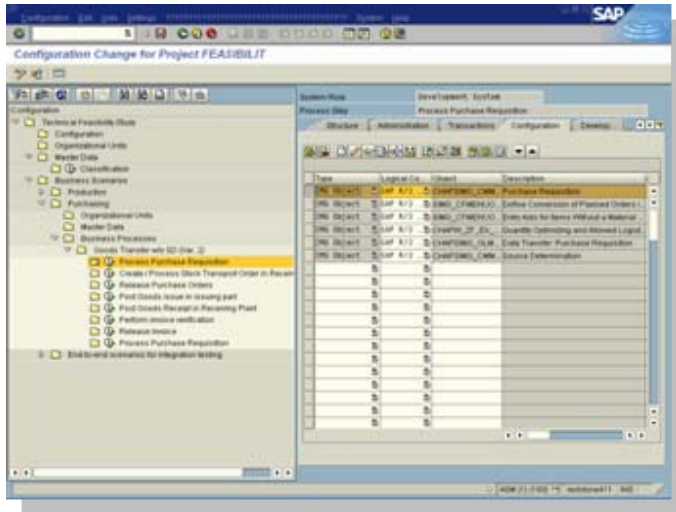
- Each COTS ERP product has a standard interface that is used specifically for setting basic configuration parameters.

- For example, in SAP one uses the "Solution Manager" component to manage all SAP configuration. In PeopleSoft, "Foundation Tables" are used for Configuration.

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Enterprise Solutions Competency Center

ENTERPRISE *Integration inc.*

Configuration enables Business Processes

Scenario

Procurement

Business Process 1

Purchase Req. Management

Process Step 1

Process Step 2

Process Step 3

Create Purchase Req.

Business Process 2

Process Step 1

Process Step 2

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design
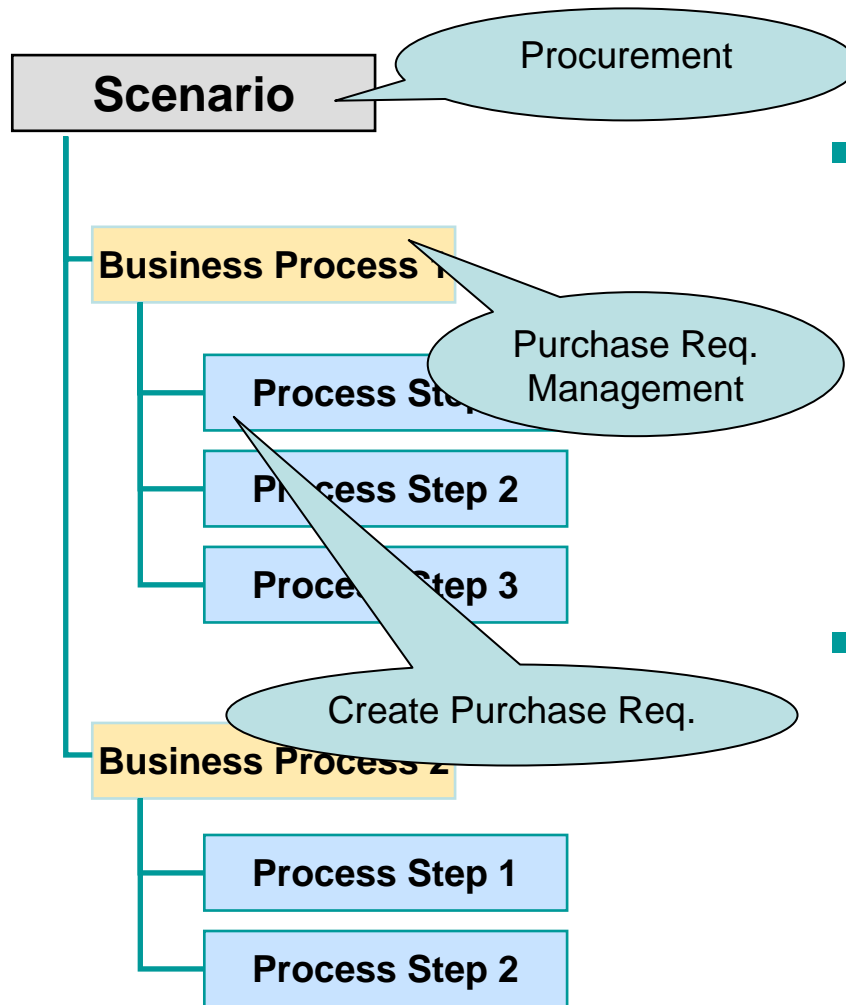
- Configuration includes setting the application data that controls how all of the business processes interact with data and external entities.

- Example: Configuring the Release Procedures that specify who must electronically sign-off on a Purchase Requisition.

How much Customization?

Enhancements or Modifications

Avoid custom development or modification – it can make the system cost prohibitive to upgrade.

Creating New Reports

COTS ERPs have extensive reporting capability built in – gather requirements carefully before developing many custom reports.

Interfacing to Other Systems

Interfacing should be minimized whenever possible

Conversion of Legacy Data

Data must be loaded – it might be necessary to build load programs.

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Enterprise Solutions Competency Center

ENTERPRISE *integration* inc.

36

Jun 2006
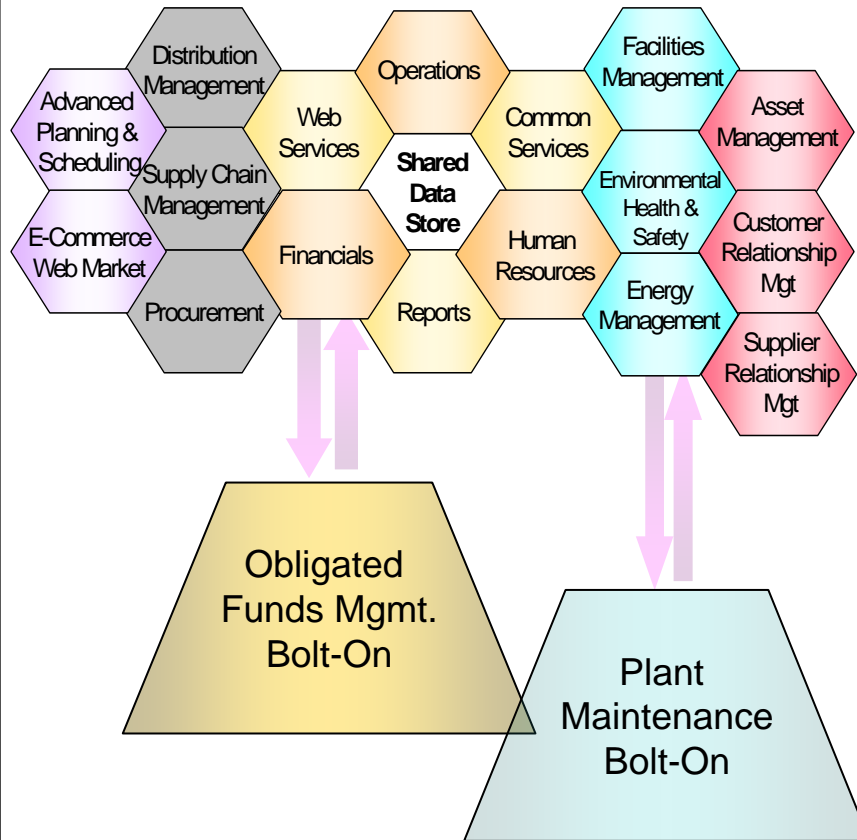
Modules vs. Bolt-Ons

- COTS ERP functionality is usually purchased in "**Modules**" – these correspond to "capabilities to perform specific business processes / activities within in the ERP system."

- **Bolt-Ons** are "Third-Party" applications that are designed to be interfaced or "bolted-on" to the ERP system to perform a specific business task/function.

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Only use Bolt-Ons when a compelling business case exists that the Modular functionality provided by an ERP is insufficient for Army requirements.

ERP & Organizational Structure

Enterprise Solutions Competency Center

Organizational Structure is Fundamental

- **Organizational Structure**
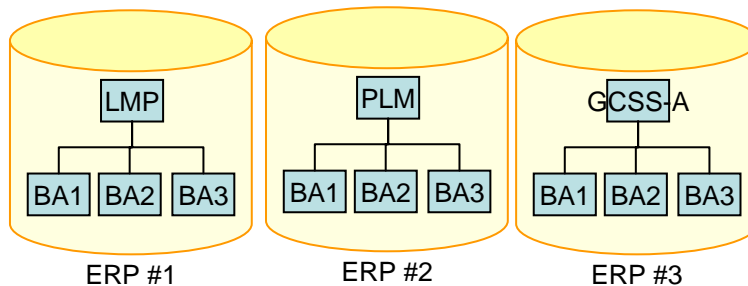
Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

The Organizational Structure within a COTS ERP is fundamental to the functioning of the software system. It defines the landscape for all other business entities within the system from where accounting charts will reside to what possibilities will be available to move materials.

The Organizational Structure should be carefully and coherently defined during the Blueprint (Design) phase.

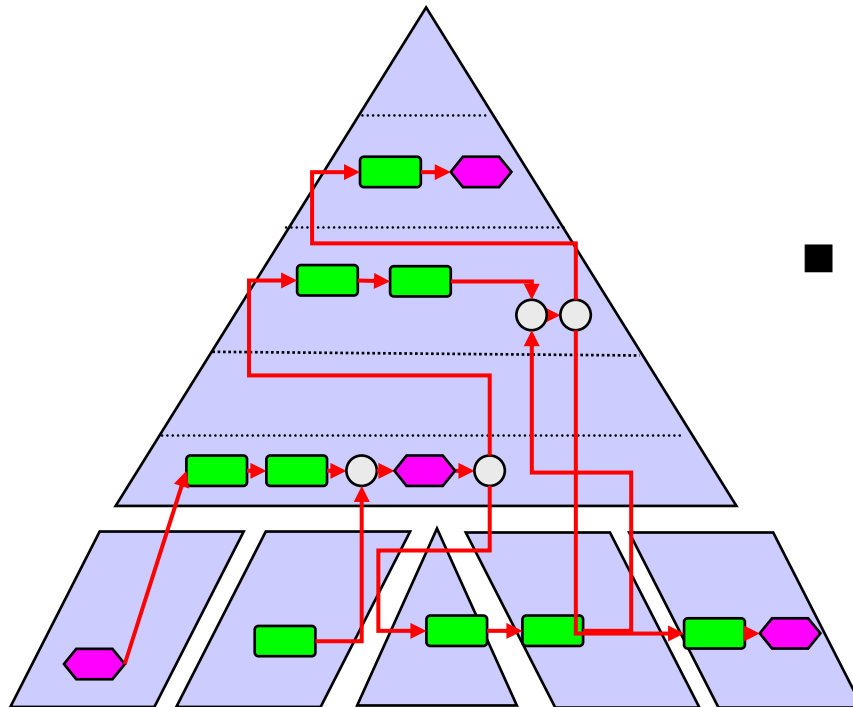# Impacts of the Organizational Structure Decision

- Making the correct Organizational Structure decisions early and adhering to them will ensure that the kind of sub-optimal decision (described below) will not occur.

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

**Multiple systems,
one organization in each**

**One system,
multiple organizations with
unique codes**

LMP
| BA1 | BA2 | BA3 |

PLM
| BA1 | BA2 | BA3 |

GCSS-A
| BA1 | BA2 | BA3 |

ERP #1   ERP #2   ERP #3

LMP
| BA1 | BA2 | BA3 | BA4 |

GCSS-A
| BA1 | BA2 | BA3 | BA4 |

PLM+
| BA1 | BA2 | BA3 | BA4 |

ENTERPRISE Integration inc.

40

Enterprise Solutions Competency Center

Jun 2006
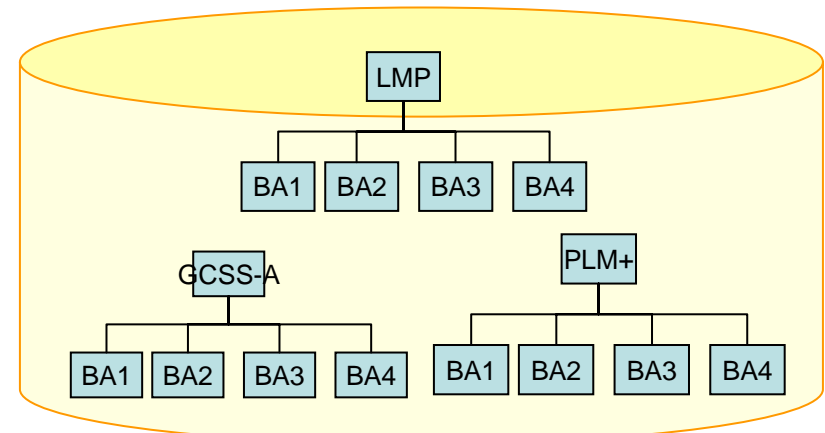
Processes within the Organizational Structure

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

- Business processes happen within the context of the organization's physical/logical structure.

- Business processes that span multiple functional areas within an organization or across multiple organizations or multiple systems of an enterprise are End-to-End (E2E) processes.

In order to achieve true enterprise-wide processes, the enterprise organizational structure must be established and adhered to.
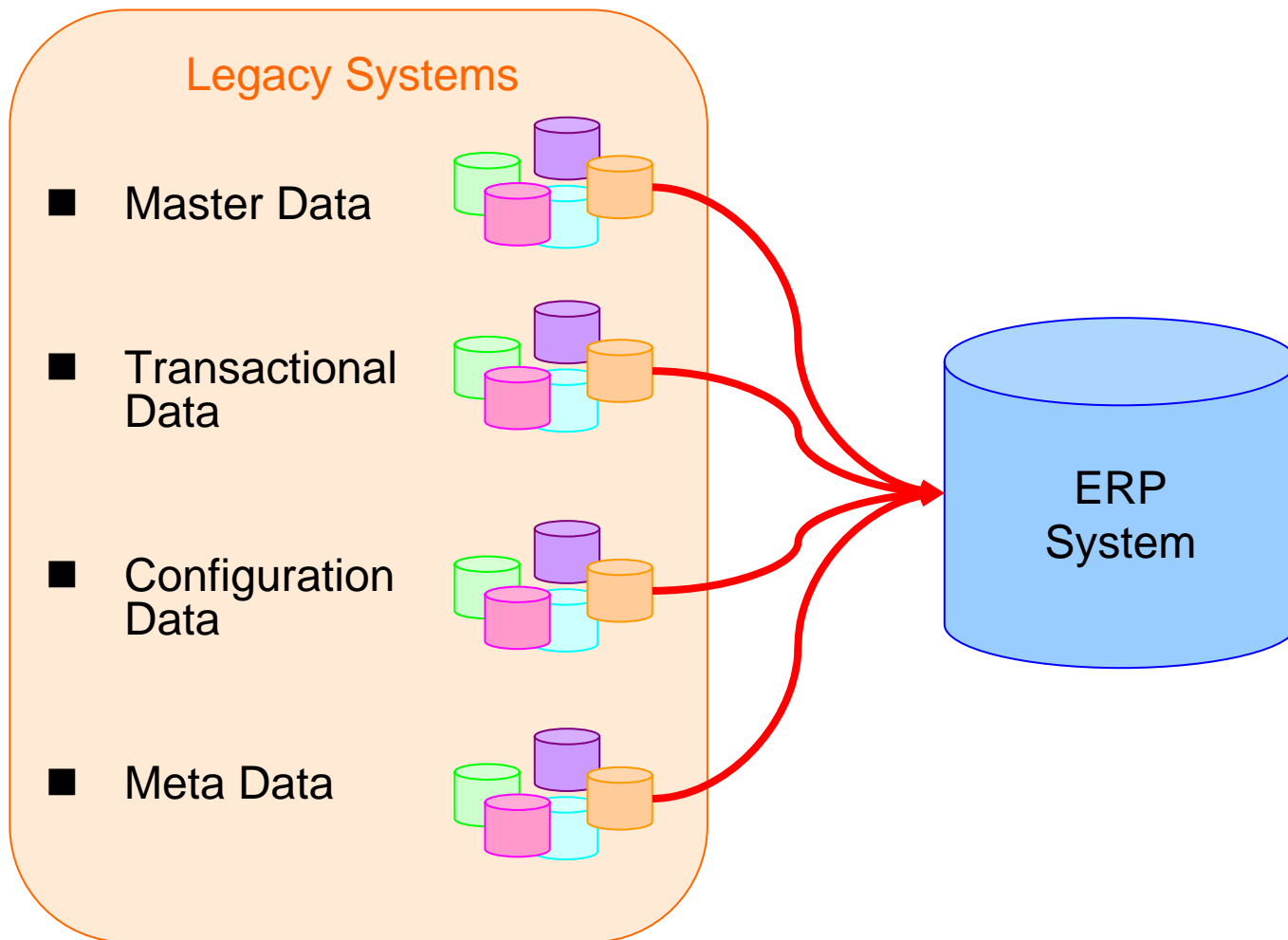
ERP & Data Quality

Data Quality is Critical
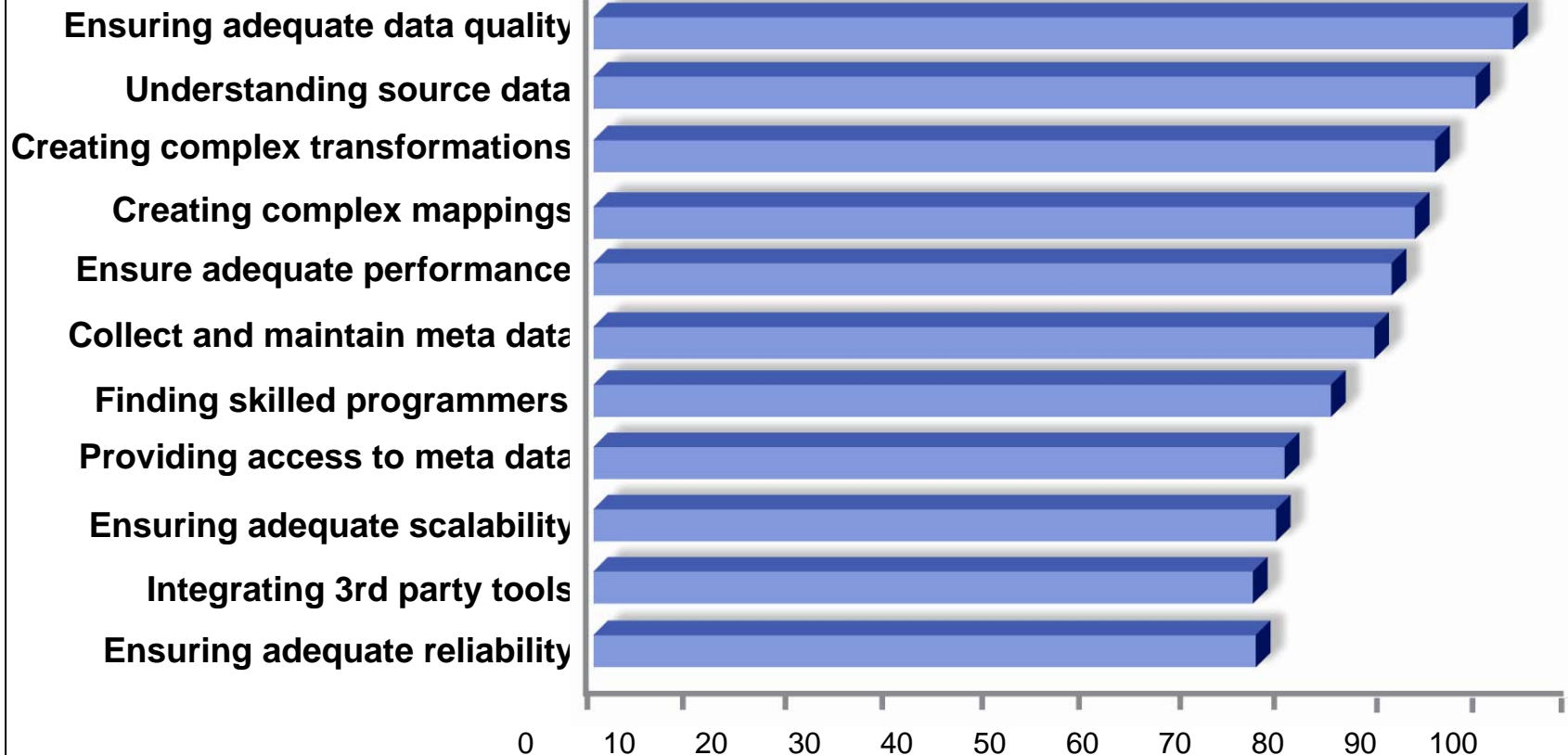
Frequency of Data Issues

Source: TDWI World Conference

Enterprise Solutions Competency Center

ENTERPRISE *Integration inc.*

Jun 2006

Data Defines ERP System

ESCC

Legacy Systems

- Master Data

- Transactional Data

- Configuration Data

- Meta Data

ERP System

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Enterprise Solutions Competency Center

ENTERPRISE *Integration inc.*

Jun 2006

Causes of Poor Data Quality

Missing Data

Different Languages

Multiple versions of the same data

Legacy Systems
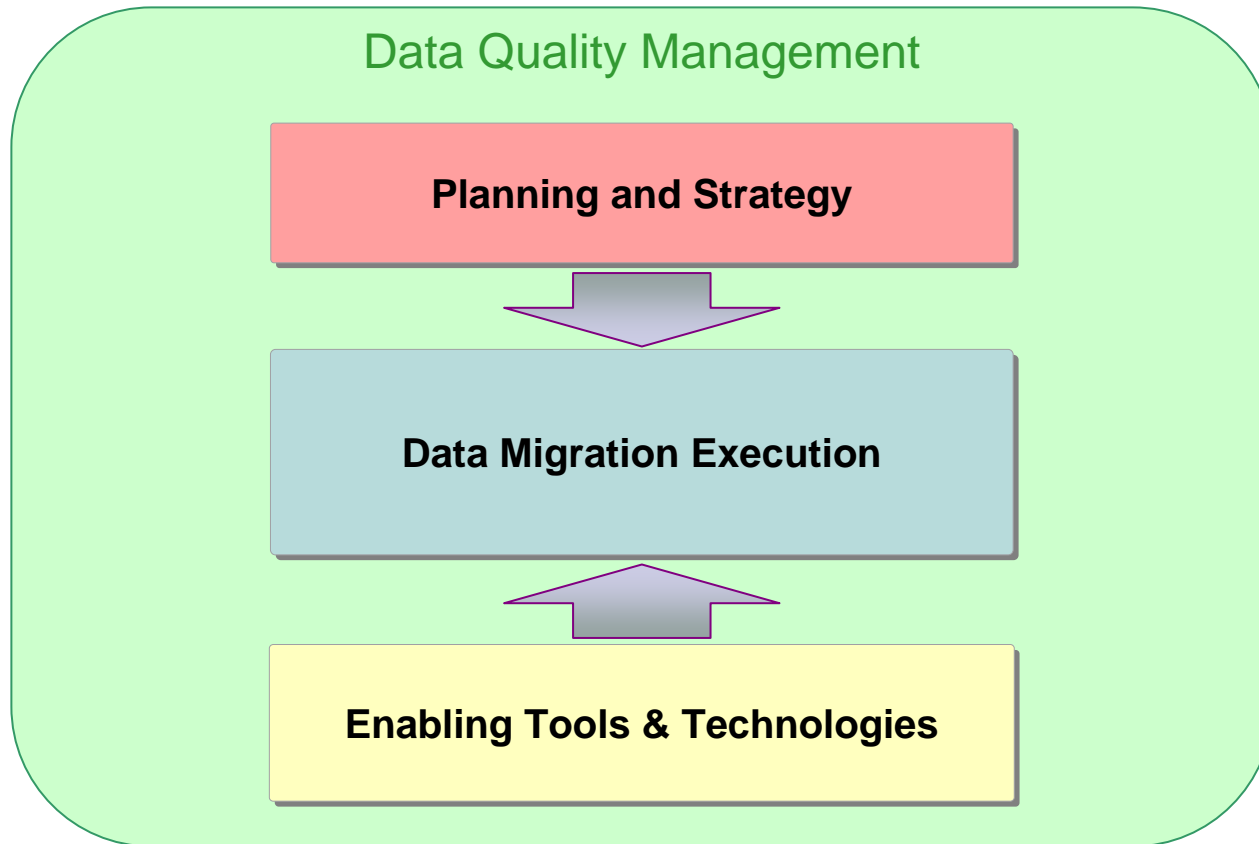
Different DB Structures

Inaccurate Data
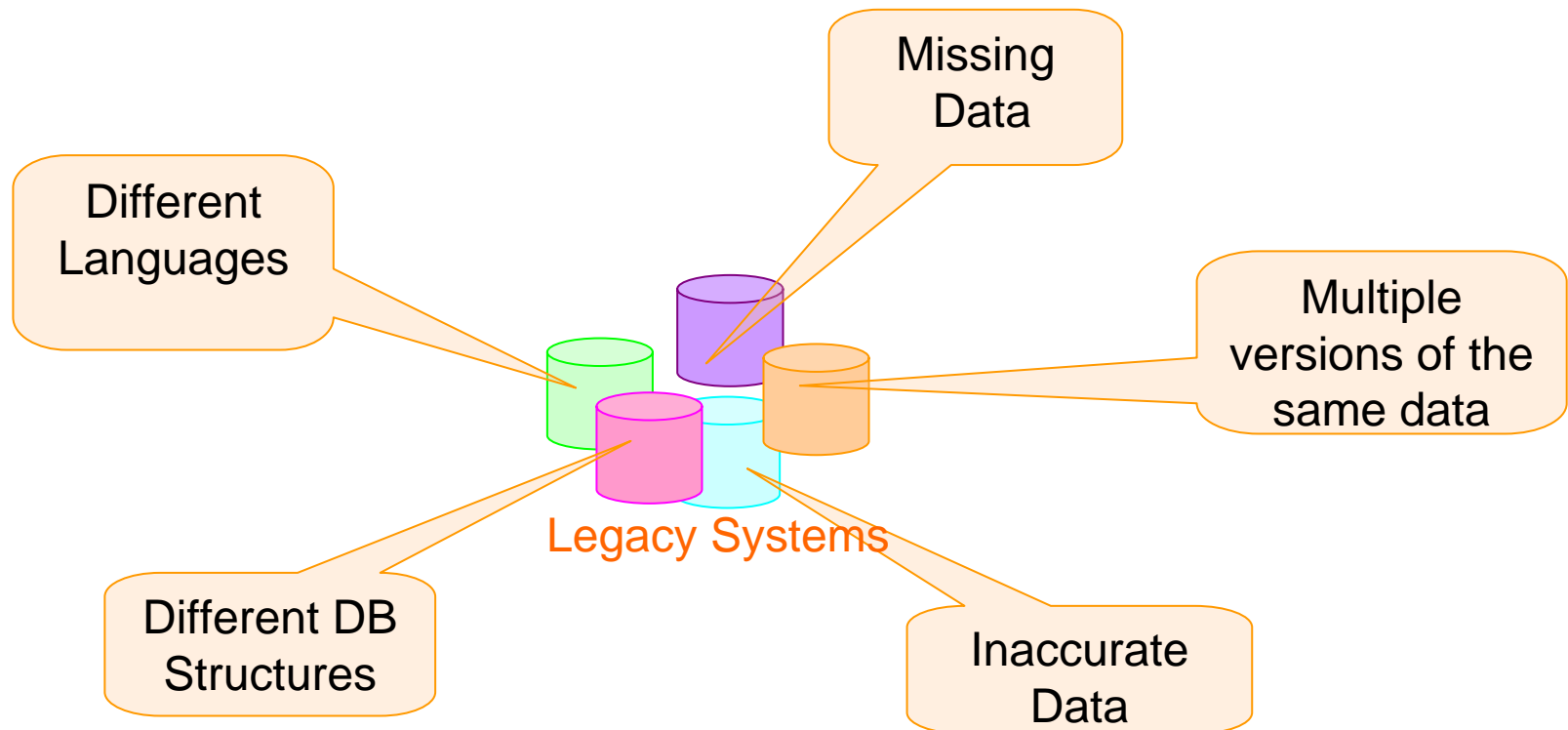
Ignoring data issues won't make them go away; addressing them methodically is the only way to ensure your new system is not burdened as well.

Data Challenges

Chart showing Data Challenges (Percent), Source: META Group

- Data Quality
- Legacy Data Scrubbing
- Managing End-user Expectations
- Business/Data Modeling
- Managing Mgmt Expectations
- Business Rule Analysis
- Managing Metadata

X-axis: 0 5 10 15 20 25 30 35 40 — Percent

Source: META Group

ENTERPRISE *integration* inc.

Data Quality Management

IMPLEMENTATION

Preparation

Blueprint *

* Blueprint = Detailed Requirements and High-level Design

Data Quality Management

Planning and Strategy

Data Migration Execution

Enabling Tools & Technologies

In order to do Data Quality Management right, it is crucial that Planning, Execution, and Enabling Technology activities occur.
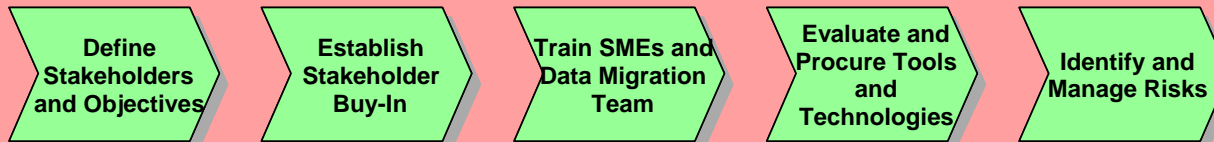
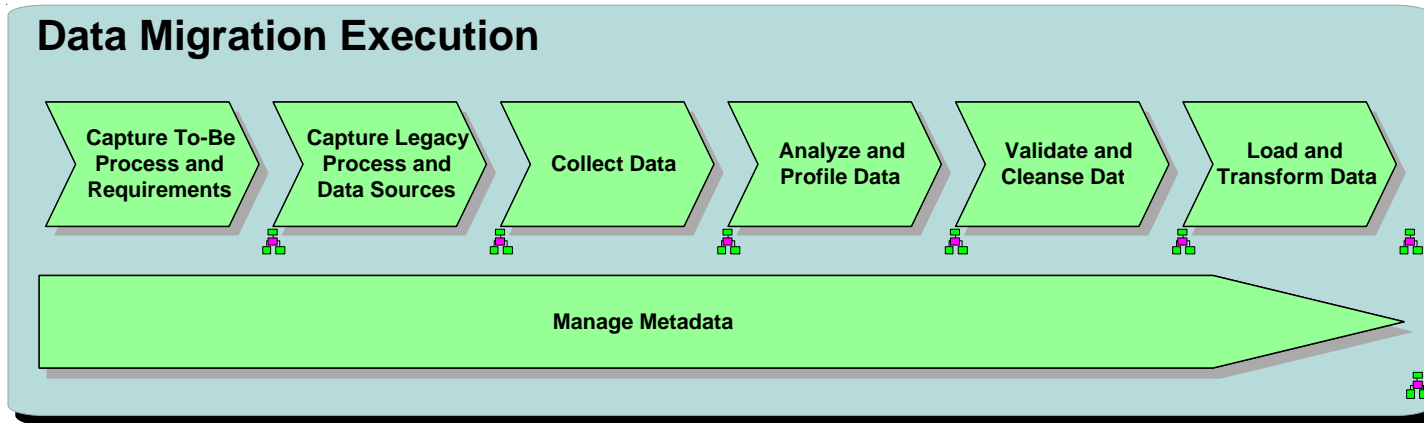# Data Quality Management – Planning & Strategy

Planning and Strategy

- Define the strategy to manage Data Quality as early as possible in the implementation.

- Create a plan (distinct from the implementation) to address Data Quality.

Identifying all the CORRECT sources of data is a significant challenge for the Army because all system interactions must be analyzed.

Data Quality Management - Execution

Data Migration Execution

Capture To-Be Process and Requirements	Capture Legacy Process and Data Sources	Collect Data	Analyze and Profile Data	Validate and Cleanse Dat	Load and Transform Data

Manage Metadata

Preparation

Blueprint *

Blueprint = Detailed Requirements and High-level Design

- During implementation, plan to address the Data Quality issues systematically and early.

- Major Data Migration Activities focus on capturing data migration requirements, addressing data quality issues, and loading data into the target system.

Data Migration should have a separate workstream, budget and team which coordinates with the Enterprise Solution project team.

Enterprise Solutions Competency Center

ENTERPRISE *Integration inc.*

Data Quality Management - Tools & Technology

Enabling Tools and Technologies

Process Modeling	Data Storage	Data Profiling and Validation	Reporting & OLAP	Federated Query and EII	Job Scheduling
Data Modeling	Extract, Transform and Load	Metadata Repository	Data Migration Portal	Master Data Management	Grid Computing

IMPLEMENTATION

Preparation

Blueprint *

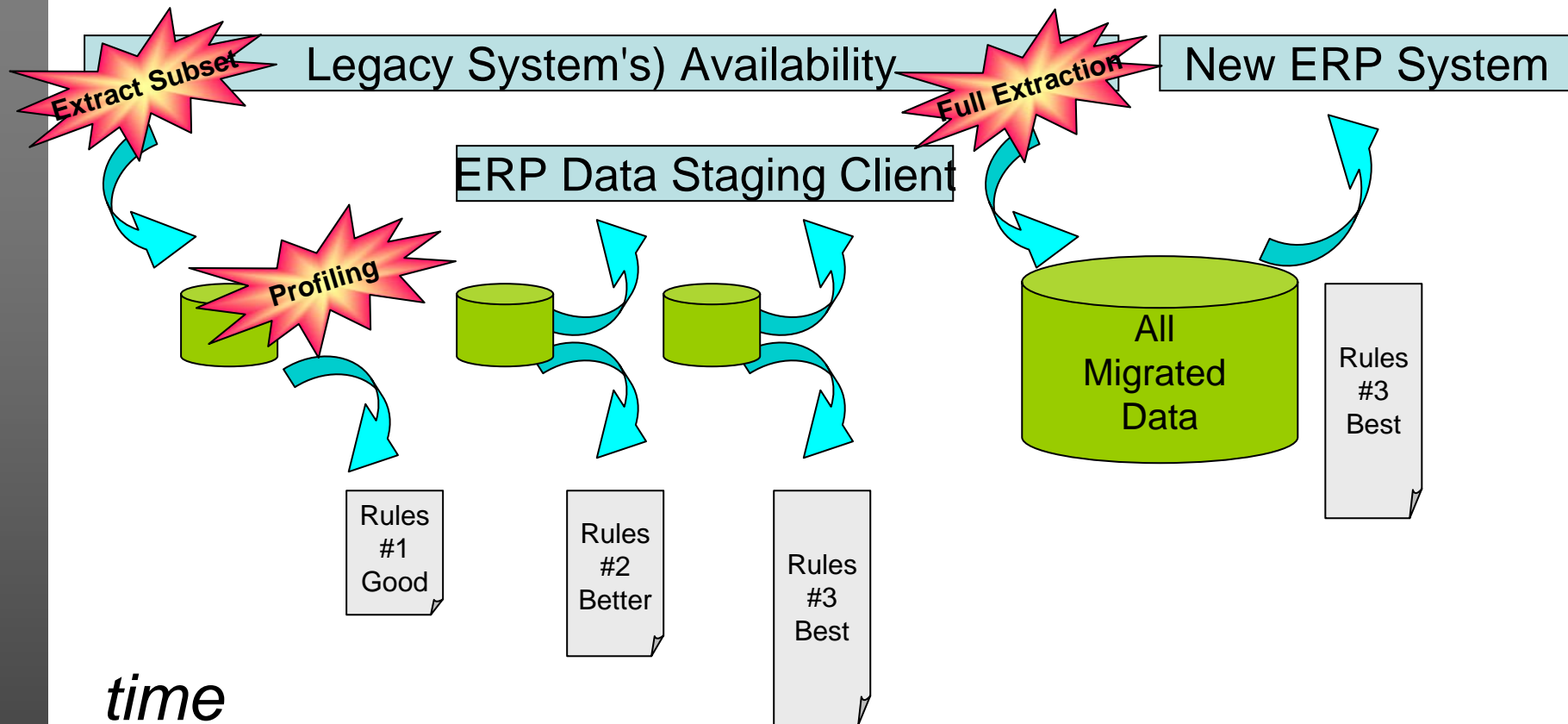* Blueprint = Detailed Requirements and High-level Design
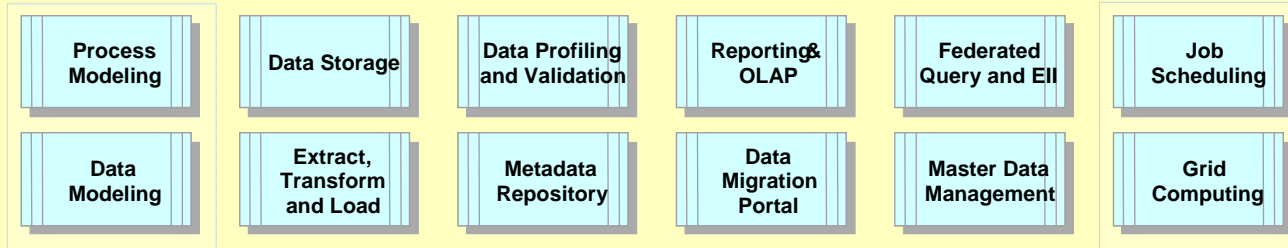
- Effective Data Quality Management requires supporting tools & technologies.

- These tools must be sourced & procured prior to the start of the Enterprise Solution project.

The procurement and training of Data Quality tools and team members should happen in conjunction with the start of the Enterprise Solution project.

Data Migration Strategy

Extract Subset

Legacy System's) Availability

New ERP System

Full Extraction

ERP Data Staging Client

Profiling

All Migrated Data

Rules #3 Best

Rules #1 Good

Rules #2 Better

Rules #3 Best

time

Start planning & strategy early because Data Quality Management is an evolutionary process that cannot be adequately accomplished without adequate preparation.

ENTERPRISE *integration* inc.

Jun 2006

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases**   **Mr. Steve Krekeler**
  and Key Milestones

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Design/Build Phase
Mr. Steve Krekeler - Capgemini

Design & Build: Entry & Exit Criteria

Preparation

Blueprint *

- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE B

Design/Build **

** Design/Build = Detailed Design, Configure/Develop and Test

Entry Criteria	Key Considerations	Exit Criteria
■ BluePrint approved ■ Change Requests including Business Case approved ■ Technical architecture and infrastructure defined ■ Development, Configuration, and Test Environments ready ■ High-level design for enhancements complete ■ Training Plan complete	■ Effective Testing is critical; defect review and management should be regularly reported ■ OT&E and DT&E testing was designed to address custom development and weapons systems, other Services have modified the approach for COTS products ■ Technical environments must also be tested for stability; system downtime can significantly impact the schedule ■ Migration of software code from one environment to another involves a detailed Configuration Management process which should be understood by the entire team	■ System Configured & Documentation complete ■ RICE Objects unit tested and results documented ■ Training and Production Environments ready ■ Legacy Data Cleansed and Data Migration Tested ■ DT&E requirements satisfied ■ Cutover Plan documented ■ Approval and Sign-off of Design/Build Phase by Army

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Jun 2006

Industry Testing Standards

- ■ **Functional Testing**
  - ☐ Unit Testing
    - ● Executed at the level of Business Transactions and focused on individual software objects
  - ☐ Integration/System Testing
    - ● Executed at the Business Scenario level and focused on end-to-end business processes (e.g. Hire to Payroll, Asset Life Cycle, etc.)
  - ☐ Regression Testing
    - ● Executed on already implemented system functionality
    - ● Ensure proposed changes (new functionality, additional modules, new sites, upgrades, etc.) do not have an adverse impact on functionality in production
  - ☐ User Acceptance Testing
    - ● Involves project team working with end-users to verify that the system satisfies the approved business requirements
- ■ **Technical Testing**
  - ☐ Volume/Stress Testing
    - ● performed in the actual production environment or in an environment that mirrors the actual production environment.
    - ● Attempts to find the capability thresholds of the system and overall system effectiveness.

IMPLEMENTATION

Preparation

Blueprint *

APPROVAL
COMPLIANCE
MILESTONE B

Design/Build **

** Design/Build = Detailed Design, Configure/Develop and Test

Enterprise Solutions Competency Center

Jun 2006

55

Industry Testing Deliverables

Testing	❑ Testing Strategy ❑ Testing Project Plan & Test Execution Schedule ❑ Testing Control Processes ❑ Test Plans ❑ Test Results Reports
Business Process Teams	❑ Integration Test Cases ❑ Integration Test Scripts & Test Results ❑ Tested (positively & negatively) Security Roles & Profiles
Technical	❑ Test Environments for all testing stages ❑ Unit Test Cases & Test Scripts
Data	❑ Converted Data to support testing stages

IMPLEMENTATION

Preparation

Blueprint *

■ APPROVAL
◆ COMPLIANCE
⬟ MILESTONE B

Design/Build **

** Design/Build = Detailed Design, Configure/Develop and Test

Software testing tools for ERP implementations are widely used by industry to streamline and structure testing activities.

Enterprise Solutions Competency Center

Jun 2006

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Key Implementation Considerations

Transition/Cutover Phase

Transition/Cutover: Entry & Exit Criteria

Entry Criteria	Key Considerations	Exit Criteria
■ User Acceptance test sign-off ■ Cutover Plans tested ■ Security Profiles tested ■ End-users trained ■ End-user Documentation complete ■ Cutover Communication Plan executed	■ Data cleansing and validation will require a significant amount of time and resources; it is an extremely high risk area ■ There should be NO SURPRISES; ☐ All impacted stakeholders should be able to clearly articulate the GO LIVE date and functionality provided by new system ☐ All end-users should be trained on the system ☐ If communication and training are not effective, the Help Desk will be bombarded with unnecessary inquiries ■ The ability to log-in to a computer remotely to resolve easy technical issues is beneficial.	■ Production System running ■ Help Desk established ■ Lessons Learned documented ■ End-user sample surveyed ■ Approval and Sign-off of Transition/Cutover ■ Phase by Army ■ Domain Advocacy obtained ■ OT&E requirements satisfied ■ Milestone C satisfied

Enterprise Solutions Competency Center

Jun 2006

**ERP & DoD Developmental Test & Evaluation (DT&E)
and Operational Test & Evaluation (OT&E)**

DT&E and OT&E

- **Development Test and Evaluation (DT&E)** fully demonstrates product performance and stability resulting in a system qualified for successful OT&E

  - ☐ Uses Engineering tests to minimize design risks
  - ☐ Provides software, security, system safety and interoperability certifications
  - ☐ Determines achievement of functional requirements and critical technical parameters
  - ☐ Determines if the system is technically ready for OT&E and/or ready to enter the next acquisition phase
  - ☐ **Occurs after Design/Build Phase**

- **Operational Test and Evaluation (OT&E)** is a field test of a system or item to examine its operational effectiveness, suitability, and survivability

  - ☐ Conducted under realistic operational conditions with users who represent those expected to operate and maintain the system when it is fielded or deployed
  - ☐ An Initial Operational Test & Evaluation is a special form of an OT&E, which is conducted using production or production representative units.
  - ☐ **Occurs after Transition/Cutover Phase**

IMPLEMENTATION

- Preparation
- Blueprint *
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE B
- Design/Build **
- Transition/Cutover
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE C
- Go-Live

Source: Army Pamphlet 73-1

Capgemini

60

Enterprise Solutions Competency Center

Jun 2006

DT&E and OT&E Differences

DT&E	OT&E
Controlled by Program Manager	Controlled by Independent Agency
One-on-One Tests	Many - on – Many Tests
Controlled Environment	Realistic/Tactical Environment with Operational Scenario
Contractor Involvement	Restricted System Contractor Involvement
Trained Experienced Operators	Troops Recently Trained on System
Precise Performance Objectives and Threshold Measurement	Performance Measurement of Operational Effectiveness and Suitability
Test to Specification	Test to Requirements
Development Test Article	Product on Representative Test Article

IMPLEMENTATION

Preparation

Blueprint *

■ APPROVAL
◆ COMPLIANCE
⬠ MILESTONE B

Design/Build **

Transition/ Cutover

■ APPROVAL
◆ COMPLIANCE
⬠ MILESTONE C

Go-Live

ESCC

Enterprise Solutions Competency Center

Jun 2006

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Example: Air Force QT&E

- Qualification Test and Evaluation (QT&E)
    - QT&E is a modified form of DT&E conducted on commercial off-the-shelf (COTS), nondevelopmental items (NDI), and government equipment (GFE).

    - Candidate systems for QT&E require little or no government funded research and development (R&D), engineering, design, or integrated efforts.

    - In addition, QT&E:

        - Is planned, conducted, and reported following the same test processes in this AFI applicable to all DT&E

        - Identifies, tracks, and resolves system deficiencies as early as possible. Also identifies enhancements.

        - Is funded with Operations and Maintenance (O&M) (3400) funds, or Procurement funds

        - Supports the decision to certify the system ready for dedicated Qualification Operational Test and Evaluation (QOT&E)

Example: Air Force QOT&E

- Qualification Operational Test and Evaluation (QOT&E)
  - QOT&E is the name used for OT&E when no significant research and development is required.

  - It used when evaluating military – unique portions and military applications of commercial off-the-shelf (COTs), nondevelopmental items (NDI), and government furnished equipment 9GFE).

  - In addition, QOT&E:

    - QOT&E planning and conduct are held to the same standards and policies as IOT&E.

    - Candidate systems of QOT&E require little or no government funded R&D, engineering, design, or integration efforts

    - May use commercially available T&E information for evaluating any non-military-unique areas

    - Is usually completed before the first production article is fielded or deployed for military use

    - Is funded with Operations and Maintenance or Procurement funds

    - Is conducted by AFOTEC using the same policies as IOT&E

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases and Key Milestones**   **Mr. Steve Krekeler**

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Enterprise Solutions Competency Center
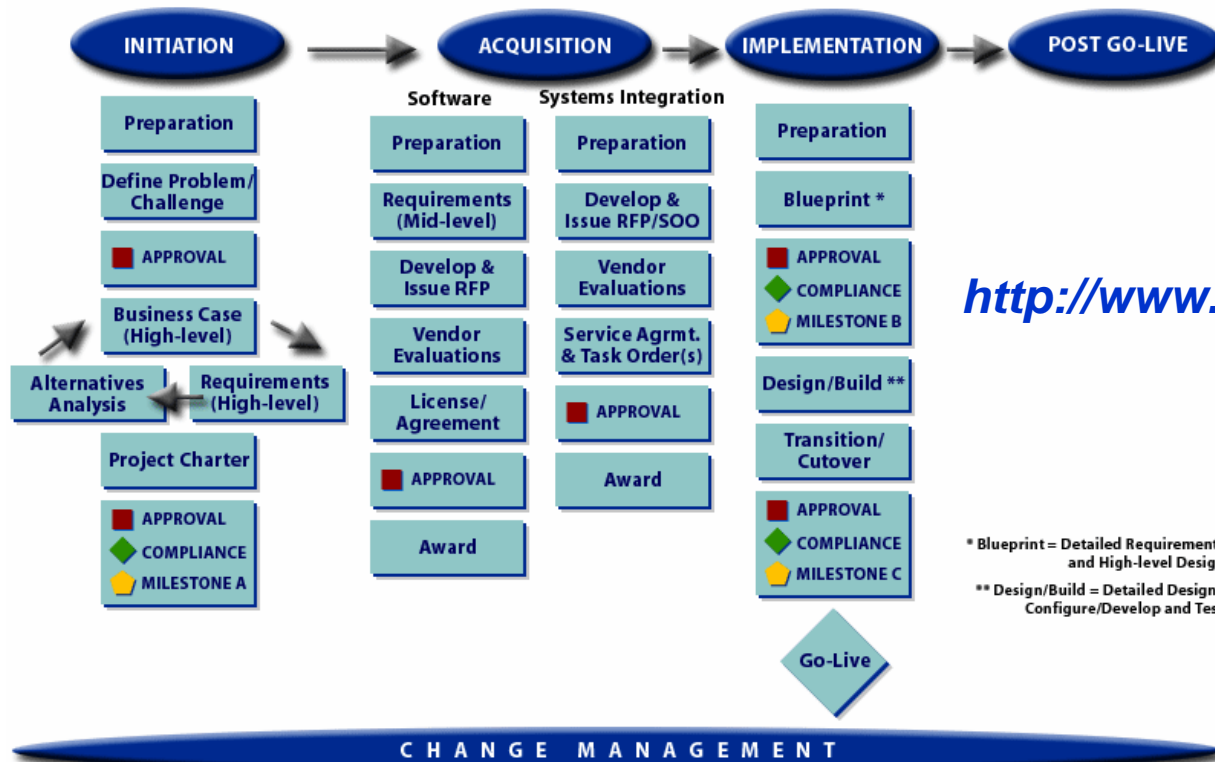
Capgemini

64

DoD Enterprise Solutions Resources

Mr. Steve Krekeler - Capgemini

ERP Lifecycle – DoD EI Toolkit

Enterprise Integration (EI) Toolkit
Road Map Overview

INITIATION → **ACQUISITION** → **IMPLEMENTATION** → **POST GO-LIVE**

INITIATION
- Preparation
- Define Problem/Challenge
- ■ APPROVAL
- Business Case (High-level)
- Alternatives Analysis ↔ Requirements (High-level)
- Project Charter
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE A

ACQUISITION

Software
- Preparation
- Requirements (Mid-level)
- Develop & Issue RFP
- Vendor Evaluations
- License/Agreement
- ■ APPROVAL
- Award

Systems Integration
- Preparation
- Develop & Issue RFP/SOO
- Vendor Evaluations
- Service Agrmt. & Task Order(s)
- ■ APPROVAL
- Award

IMPLEMENTATION
- Preparation
- Blueprint *
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE B
- Design/Build **
- Transition/Cutover
- ■ APPROVAL
- ◆ COMPLIANCE
- ⬠ MILESTONE C

◆ Go-Live

http://www.eitoolkit.com/

* Blueprint = Detailed Requirements and High-level Design

** Design/Build = Detailed Design, Configure/Develop and Test

CHANGE MANAGEMENT

- *Reconciliation of typical ERP Methodologies and DoD milestones*
- *Used in conjunction with System Integrator's Methodology*
- *Developed by OSD*
- *Validated by Gartner as consistent with industry best practice*

Enterprise Solutions Competency Center

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

66

Jun 2006

ESCC

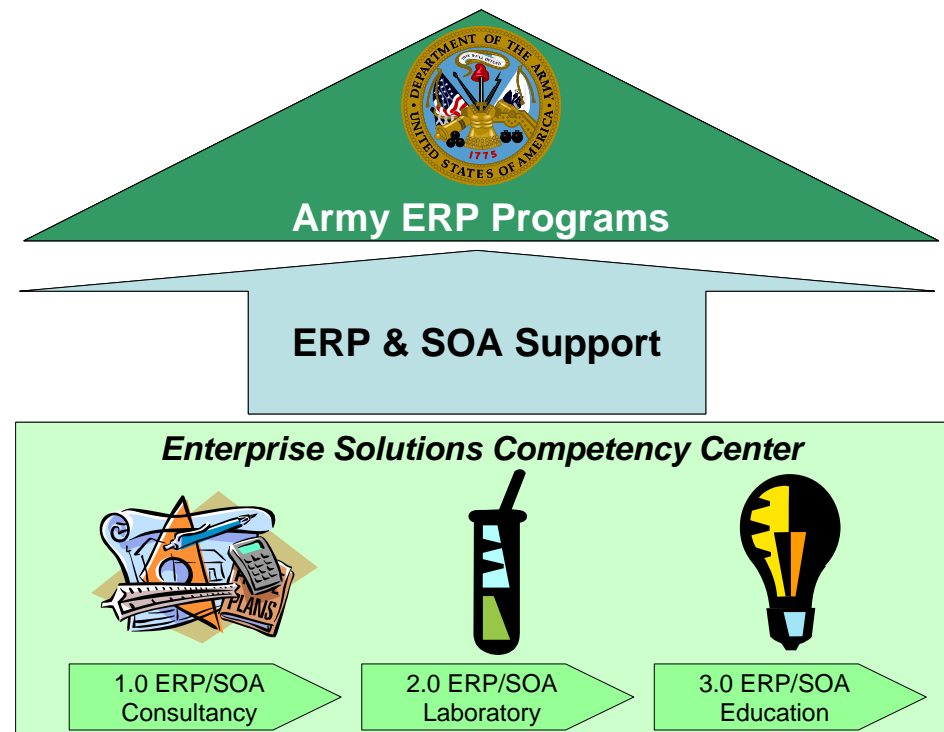1. **ERP/SOA Laboratory allows the Army community to:**
   - Access best-of-breed software
   - Test new software functionality
   - Proof concept models, technical solutions and integration.

2. **ERP/SOA Education** provided through the ESCC website assists with:
   - Development and sharing of white papers
   - Development and delivery of relevant traditional instruction and virtual / distance training,
   - Maintenance of a repository of lessons learned.

3. **ERP/SOA Consultancy** services provide:
   - Coaching, assessment, recommendations, and compliance feedback to the leadership of Army ERP programs through the full lifecycle of an ERP implementation

Army ERP Programs

ERP & SOA Support

Enterprise Solutions Competency Center

| 1.0 ERP/SOA Consultancy | 2.0 ERP/SOA Laboratory | 3.0 ERP/SOA Education |

Enterprise Solutions Competency Center

Agenda

- **Opening Remarks**   **Mr. Chip Raymond**

- **ERP Lifecycle Management**   **Mr. Steve Krekeler**

- **Enterprise Solutions Phases**   **Mr. Steve Krekeler**
  and Key Milestones

- **Break**   **20 min**

- **Customization vs. Configuration**   **Dr. Ray Sommer**

- **Implementation Phase Key Considerations**   **Mr. Steve Krekeler**

- **Enterprise Solutions Toolkits and Resources**   **Mr. Steve Krekeler**

- **Q&A**

Enterprise Solutions Competency Center

Learning Objectives

- Learn what the unique elements of ERP Lifecycle Management consist of.

  - ☐ DoD Enterprise Integration Roadmap
    - Phases and Key Considerations
    - Entry and Exit Criteria

  - ☐ Implementation Phase Key Considerations
    - Entry & Exit Criteria
    - Customization vs. Configuration
    - Organizational Structure
    - Importance of Data Quality
    - Testing

- Identify DoD resources for ERP Lifecycle Management